

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: WARREN LAKE	Lake Area (ha):	75.07
Town: ALSTEAD	Maximum depth (m):	4.2
County: Cheshire	Mean depth (m):	2.2
River Basin: Connecticut	Volume (m ³):	1671000
Latitude: 43°07'05" N	Relative depth:	0.4
Longitude: 72°17'20" W	Shore configuration:	1.79
Elevation (ft): 1200	Areal water load (m/yr):	8.43
Shore length (m): 5500	Flushing rate (yr ⁻¹):	3.80
Watershed area (ha): 1309.9	P retention coeff.:	0.57
% watershed ponded: 0.0	Lake type:	natural w/dam

BIOLOGICAL:

15 January 1992

24 June 1991

DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 50%	DINOBRYON 50%
	#2	ASTERIONELLA 40%	CHRYSPHAERELLA 50%
	#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)			400
CHLOROPHYLL-A (µg/L)			1.82
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 52%	NAUPLIUS LARVAE 34%
	#2		DAPHNIA 13%
	#3		CALANOID COPEPODS 11%
ROTIFERS/LITER		62	50
MICROCRUSTACEA/LITER		22	135
ZOOPLANKTON ABUNDANCE (#/L)		98	209
VASCULAR PLANT ABUNDANCE			Scat/Common
SECCHI DISK TRANSPARENCY (m)			3.6
BOTTOM DISSOLVED OXYGEN (mg/L)		10.1	7.9
BACTERIA (fecal col., #/100 ml) #1			< 1
	#2		< 1
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m³) : None
Anoxic volume (m³) : None

CHEMICAL:

Lake: WARREN LAKE

Town: ALSTEAD

	15 January 1992		24 June 1991		
DEPTH (m)	1.0	3.0	1.5		3.5
pH (units)	6.2	5.9	6.7		6.4
A.N.C. (Alkalinity)	3.0	2.4	3.2		1.6
NITRATE NITROGEN	0.07	0.06	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.013	0.015	0.011		0.013
CONDUCTIVITY (μ mhos/cm)	56.8	56.8	53.2		54.3
APPARENT COLOR (cpu)	22	22	16		18
MAGNESIUM			0.94		
CALCIUM			2.5		
SODIUM			4.9		
POTASSIUM			0.59		
CHLORIDE	9	9	8		8
SULFATE	7	6	5		6
TN : TP					
CALCITE SATURATION INDEX			3.7		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1991

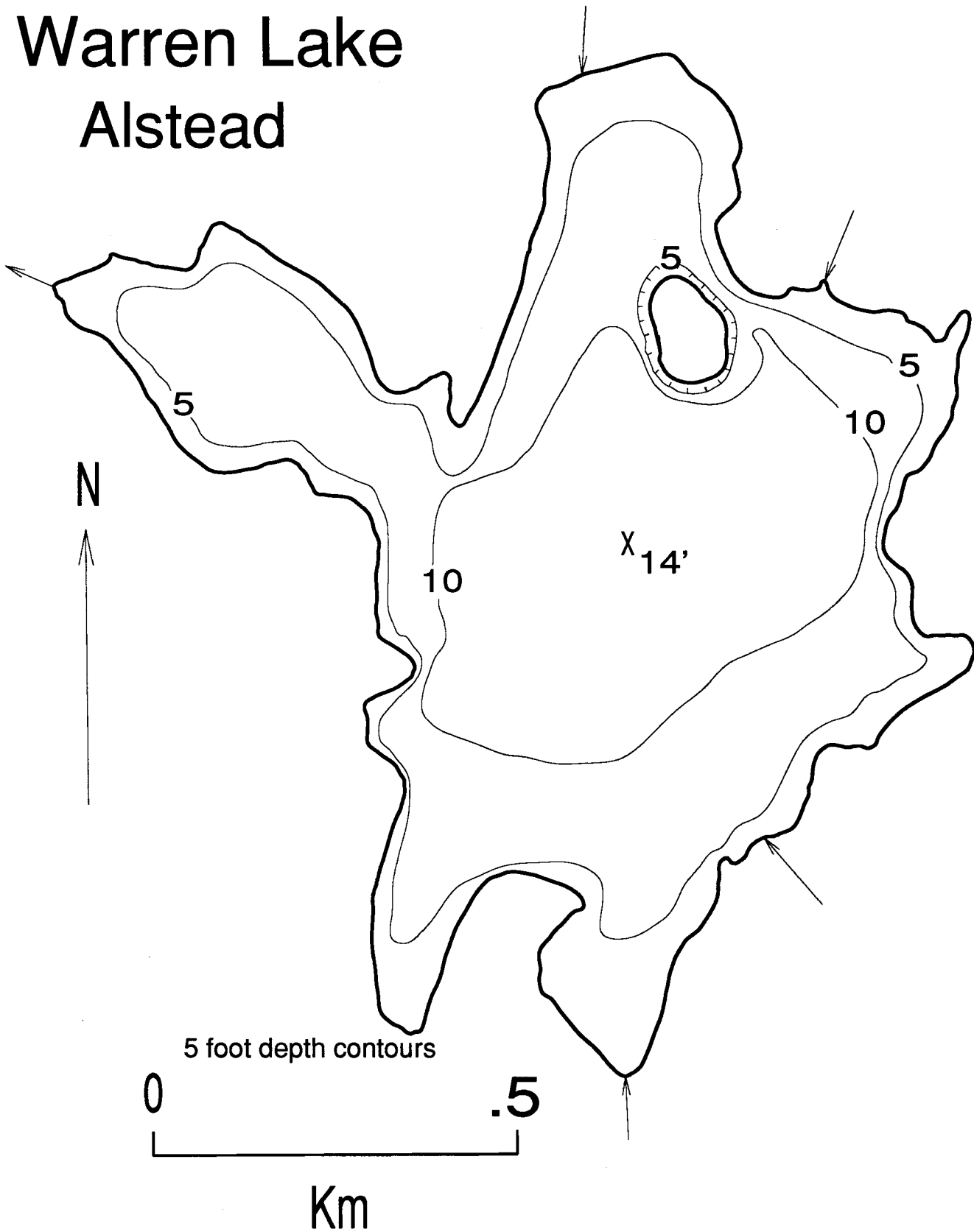
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	2	0	4	Oligo.

COMMENTS:

1. This lake was previously surveyed and classified in 1980 . The lake is borderline oligotrophic/mesotrophic. It fell in the mesotrophic class in 1980 and oligotrophic in 1991. A change of one trophic point in either year would have shifted the lake into the other classification. There was little change between the two years, although the rooted plant growth was more abundant and the algae less abundant in 1991.
2. A partly tarred boat ramp was located at the beach in the outlet cove.
3. Cryptomonas (20%), Chrysosphaerella (15%) and Chroomonas (15%) were the dominant genera of wholewater plankton. The dominant classes were golden algae (35%), Cryptomonads (35%) and greens (20%).

Warren Lake

Alstead



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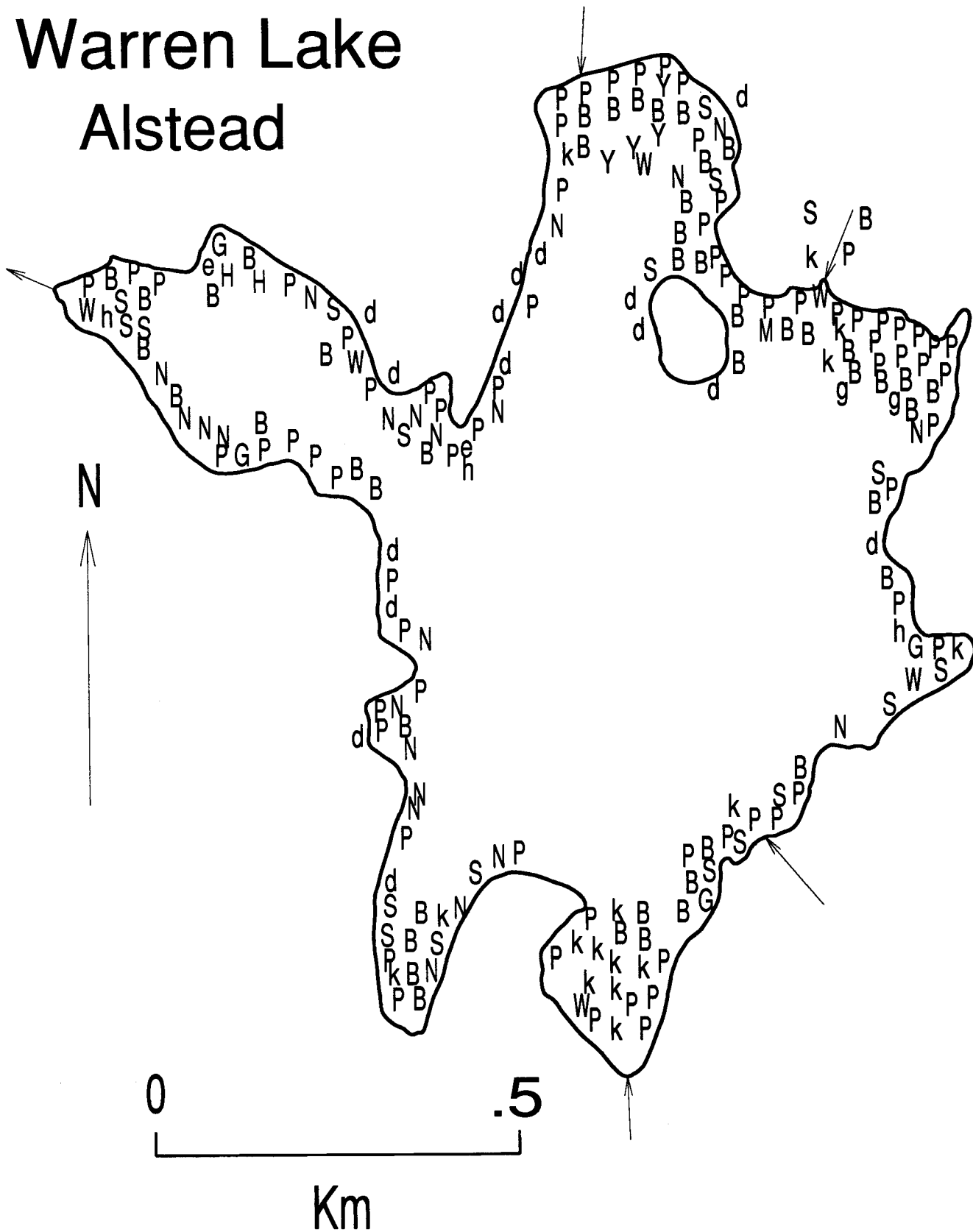
TOWN: ALSTEAD
WEATHER: PARTLY SUNNY & BREEZY: 75 F

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COMMENTS :

***Dissolved oxygen values are in mg/L**

Warren Lake Alstead



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